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FILE 'HOME' ENTERED AT 09:52:17 ON 25 JUN 2004

=> file agricola caplus biosis

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
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FILE 'AGRICOLA' ENTERED AT 09:52:24 ON 25 JUN 2004

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=> s virus and beta barrel
L1 211 VIRUS AND BETA BARREL

=> s l1 and loop?
L2 51 L1 AND LOOP?

=> del l2 y

=> s l1 and plant?
L2 45 L1 AND PLANT?

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3 28 DUP REM L2 (17 DUPLICATES REMOVED)

=> d 1-10 ti

L3 ANSWER 1 OF 28 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Mapping the triphosphatase active site of baculovirus mRNA capping enzyme
LEF4 and evidence for a two-metal mechanism.

L3 ANSWER 2 OF 28 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Mapping the active site of vaccinia **virus** RNA triphosphatase.

L3 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI The structure and evolution of the major capsid protein of a large,
lipid-containing DNA **virus**

L3 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI The Crystallographic Structure of Brome Mosaic **Virus**

L3 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI Chimeric **plant** viruses with mucin peptides possessing strong
immunogenicity

L3 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
TI Structure of the maize streak **virus** geminate particle

L3 ANSWER 7 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
TI Satsuma dwarf and related viruses belong to a new lineage of **plant**
picorna-like viruses

L3 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
TI Mutational analyses of the putative calcium binding site and hinge of the
turnip crinkle **virus** coat protein

L3 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
TI The structure of tobacco ringspot **virus**: a link in the evolution
of icosahedral capsids in the picornavirus superfamily

L3 ANSWER 10 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
TI Hepatitis Core Antigen Produced in Escherichia coli: Subunit Composition,
Conformation Analysis, and in Vitro Capsid Assembly

=> d 4 so

L3 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
SO Journal of Molecular Biology (2002), 317(1), 95-108
CODEN: JMOBAK; ISSN: 0022-2836

=> d 4 ab

L3 ANSWER 4 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AB The structure of brome mosaic **virus** (BMV), the type member of the bromoviridae family, has been determined from a single rhombohedral crystal by X-ray diffraction, and refined to an R value of 0.237 for data in the range 3.4-40.0 Å. The structure, which represents the native, compact form at pH 5.2 in the presence of 0.1 M Mg²⁺, was solved by mol. replacement using the model of cowpea chlorotic mottle **virus** (CCMV), which BMV closely resembles. The BMV model contains amino acid residues 41-189 for the pentameric capsid A subunits, and residues 25-189 and 1-189 for the B and C subunits, resp., which compose the hexameric capsomeres. In the model there are two Mg ions and one mol. of polyethylene glycol (PEG). The first 25 amino acid residues of the C subunit are modeled as polyalanine. The coat protein has the canonical "jellyroll" **.beta.-barrel** topol. with extended amino-terminal polypeptides as seen in other icosahedral **plant viruses**. Mass spectrometry shows that in native BMV virions, a significant fraction of the amino-terminal peptides are apparently cleaved. No recognizable nucleic acid residue is visible in the electron d. maps except at low resolution where it appears to exhibit a layered arrangement in the virion interior. It is juxtaposed closely with the interior surface of the capsid but does not interpenetrate. The protein subunits forming hexameric capsomeres, and particularly dimers, appear to interact extensively, but the subunits otherwise contact one another sparsely about the 5-fold and quasi 3-fold axes. Thus, the virion appears to be an assembly of loosely associated hexameric capsomeres, which may be the basis for the swelling and dissociation that occurs at neutral pH and elevated salt concentration. A Mg ion is observed to lie exactly on the quasi-3-fold axis and is closely coordinated by side-chains of three quasi-symmetry-related residues glutamates 84, with possible participation of side-chains from threonines 145, and asparagines 148. A presumptive Mg²⁺ is also present on the 5-fold axis where there is a concentration of neg. charged side-chains, but the precise coordination is unclear. In both cases these cations appear to be essential for maintenance of virion stability. D. that is contiguous with the viral interior is present on the 3-fold axis at the center of the hexameric capsomere, where there is a pore of about 6 Å diameter. The d. cannot be attributed to cations and it was modeled as a PEG mol.

=> d 5 ab

L3 ANSWER 5 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
AB Mucin peptide epitopes are inserted into the coat protein of a **plant virus** (e.g. a comovirus such as cowpea mosaic **virus**) having a **.beta.-barrel** structure at an immunogenically effective site, such as in a loop connecting β-sheets or at/near the C-terminus. The resulting chimeric **virus** particles are extremely immunogenic, giving better results than KLH conjugation and not requiring the addition of exogenous adjuvant. They are effective at mucosal surfaces, particularly when administered intranasally, and induce antibodies to tumor antigens.

=> d 5 pi

L3	ANSWER 5 OF 28	CAPLUS	COPYRIGHT 2004	ACS on STN		
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
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PI	WO 2001018199	A1	20010315	WO 2000-GB3500	20000911	
	WO 2001018199	C2	20020906			

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
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 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 EP 1214410 A1 20020619 EP 2000-958882 20000911
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL

=> d 8 ab

L3 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
 AB The turnip crinkle carmovirus (TCV) coat protein (CP) is folded into R
 (RNA-binding), S (shell), and P (protruding) domains. The S domain is an
 eight-stranded **.beta. barrel** common to the coat
 protein subunits of most RNA viruses. A five-amino-acid hinge connects
 the S and P domains. In assembled particles, each pair of CP subunits is
 thought to bind a single calcium ion through interactions with three
 residues of one subunit and two residues of a neighboring subunit. These
 five residues comprise the putative calcium-binding site (CBS). The
 putative CBS and hinge are adjacent to one another. Mutations were
 introduced into the putative CBS or hinge in an effort to further determine the
 biol. functions of TCV CP. One putative CBS mutant, TCV-M32, exhibited
 wild-type cell-to-cell movement but failed to move systemically in
 Nicotiana benthamiana, and particles were not detected. Another putative
 CBS mutant, TCV-M23, exhibited deficient cell-to-cell movement but
 particles accumulated in isolated protoplasts. Two other putative CBS
 mutants, TCV-M22 and -M33, showed wild-type cell-to-cell and systemic
 movement but elicited mild systemic symptoms that were somewhat delayed.
 All of the hinge mutants exhibited wild-type movement but some elicited
 non-wild-type symptoms. Point mutations in the putative CBS or hinge
 appear to alter **virus-ion** interactions, secondary structure, or
 particle conformation, thereby affecting interactions between the CP and
plant hosts. (c) 1999 Academic Press.

=> d 8 so

L3 ANSWER 8 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
 SO Virology (1999), 259(1), 34-42
 CODEN: VIRLAX; ISSN: 0042-6822

=> d 9 ab

L3 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
 AB Tobacco ringspot **virus** (TRSV) is a member of the nepovirus genus
 of icosahedral RNA **plant** viruses that cause disease in fruit
 crops. Nepoviruses, comoviruses and picornaviruses are classified in the
 picornavirus superfamily. Crystal structures of comoviruses and
 picornaviruses and the mol. mass of the TRSV subunit (sufficient to
 accommodate 3 **.beta.-barrel** domains) suggested that
 nepoviruses may represent a link in the evolution of the picornavirus
 capsids from a T = 3 icosahedral **virus**. This evolutionary
 process is thought to involve triplication of the capsid protein gene, to
 encode a 3-domain polyprotein, followed by development of cleavage sites
 in the interdomain linking regions. Structural studies on TRSV were
 initiated to determine if the TRSV subunit corresponds to the proposed
 uncleaved 3-domain polyprotein. The 3.5 Å resolution structure of TRSV

shows that the capsid protein consists of 3 **.beta.-barrel** domains covalently linked by extended polypeptides. The order of connectivity of the domains in TRSV confirms the proposed connectivity for the precleaved comovirus and picornavirus capsid polyprotein. Structural differences between equivalent domains in TRSV and comoviruses are confined to the external surface loops, interdomain connecting polypeptides, and N termini. The 3 different domains within TRSV and comoviruses are more closely related at the structural level than the 3 individual domains within picornaviruses. The structural results confirm the notion of divergent evolution of the capsid polyproteins of nepoviruses, comoviruses, and picornaviruses from a common ancestor. A number of residues were conserved among various nepoviruses, some of which stabilize the quaternary structure of the 3 domains in the TRSV capsid protein subunit. Two conserved regions were identified on the external surface of TRSV; however, mutational studies will be needed to understand their functional significance. Nepoviruses transmitted by the same nematode species do not share regions with similar amino acid composition on the viral surface.

=> d 9 so

L3 ANSWER 9 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
 SO Structure (London) (1998), 6(2), 157-171
 CODEN: STRUE6; ISSN: 0969-2126

=> d 11-20 ti

L3 ANSWER 11 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
 TI The structure of satellite panicum mosaic **virus** at 1.9 Å resolution

L3 ANSWER 12 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 8
 TI Structures of the native and swollen forms of cowpea chlorotic mottle **virus** determined by x-ray crystallography and cryo-electron microscopy

L3 ANSWER 13 OF 28 AGRICOLA Compiled and distributed by the National
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 of America. It contains copyrighted materials. All rights reserved.
 (2004) on STN DUPLICATE 9
 TI The refined three-dimensional structure of an insect **virus** at 2.8 angstroms resolution.

L3 ANSWER 14 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 10
 TI Three-dimensional structure of calicivirus

L3 ANSWER 15 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 11
 TI Architecture of Physalis mottle tymovirus as probed by monoclonal antibodies and cross-linking studies

L3 ANSWER 16 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Three-dimensional structure of satellite tobacco mosaic **virus** at 2.9 Å resolution

L3 ANSWER 17 OF 28 AGRICOLA Compiled and distributed by the National
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 (2004) on STN DUPLICATE 12
 TI Double-helical RNA in satellite tobacco mosaic **virus**.

L3 ANSWER 18 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 13
 TI Sequence analyses and structural predictions of double-stranded RNA

segment S1 and VP7 from United States prototype bluetongue **virus**
serotypes 13 and 10

L3 ANSWER 19 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 14
TI Viral cysteine proteases are homologous to the trypsin-like family of
serine proteases: structural and functional implications

L3 ANSWER 20 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI The structure of cowpea mosaic **virus** at 3.5 Å resolution

=> d 21-28 ti

L3 ANSWER 21 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI Structure and assembly of turnip crinkle **virus**. IV. Analysis
of the coat protein gene and implications of the subunit primary structure

L3 ANSWER 22 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 15
TI Structure of an insect **virus** at 3.0 Å resolution

L3 ANSWER 23 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI Recognition and interactions controlling the assemblies of .**beta**
. **barrel** domains

L3 ANSWER 24 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI Three-dimensional structure of poliovirus at 2.9 Å resolution

L3 ANSWER 25 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 16
TI Similarities in the genomic sequence and coat protein structure of
plant viruses

L3 ANSWER 26 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 17
TI Structure of a T = 1 aggregate of alfalfa mosaic **virus** coat
protein seen at 4.5 Å resolution

L3 ANSWER 27 OF 28 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI STRUCTURAL COMPARISONS OF SOME SMALL SPHERICAL **PLANT** VIRUSES.

L3 ANSWER 28 OF 28 CAPLUS COPYRIGHT 2004 ACS on STN
TI Amino acid sequence of southern bean mosaic **virus** coat protein
and its relation to the three-dimensional structure of the **virus**

=> dis his

(FILE 'HOME' ENTERED AT 09:52:17 ON 25 JUN 2004)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 09:52:24 ON 25 JUN 2004

L1 211 S VIRUS AND BETA BARREL
L2 45 S L1 AND PLANT?
L3 28 DUP REM L2 (17 DUPLICATES REMOVED)

=> s virus and plant? and (immuno? or antigen or epitope)
L4 14803 VIRUS AND PLANT? AND (IMMUNO? OR ANTIGEN OR EPITOPE)

=> s l4 and coat protein
L5 1074 L4 AND COAT PROTEIN

=> s l5 and adjuvant
L6 6 L5 AND ADJUVANT

=> dup rem l6
PROCESSING COMPLETED FOR L6
L7 5 DUP REM L6 (1 DUPLICATE REMOVED)

=> d 1-5 ti

- L7 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
TI DNA vaccines encoding fusion protein of desired **antigen** and **adjuvant** sequence of **plant viral coat protein**
- L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
TI Expression, purification, and obtaining of antibodies to a recombinant protein of the capsid of alfalfa mosaic **virus** in the bacterial system *Escherichia coli*
- L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
TI Chimeric **plant** viruses with mucin peptides possessing strong **immunogenicity**
- L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI *Pseudomonas aeruginosa* outer-membrane protein F epitopes are highly **immunogenic** in mice when expressed on a **plant virus**
- L7 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
TI Chimeric potyvirus-like particles as vaccine carriers.

=> d 1-5 ab

- L7 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB A nucleic acid construct is provided for delivery into living cells in vivo for inducing an immune response in a patient to an **antigen**; the construct directing the expression of a fusion protein, said fusion protein comprising said **antigen** and an **adjuvant** sequence derived from a **plant viral coat protein**. The **plant viral coat protein** is potato **virus X coat protein**. The **antigen** is myeloma-specific **antigen** scFv-5T33, self **antigen**, tumor **antigen**, viral **antigen** derived from e.g. herpes simplex **virus** or HIV, or bacterial **antigen** derived from e.g. *Staphylococcus* or *Salmonella*. Methods for making such constructs, and methods of using such constructs for the treatment of infectious disease, cancer and B cell malignancy, are provided.
- L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB The recombinant **coat protein** of Alfalfa Mosaic **Virus** in the bacterial expression system is obtained through cloning ORF of the CP gene into plasmid pET24a using the PCR technique. The protein had some amino acidic replacements and was shorter by three amino acid residue than the original protein. Immunization of rabbits was done with 0.5 mg of purified recombinant CP emulsified in Freund's complete **adjuvant**. ELISA test and Western blotting were performed. The results showed that the antiserum reacted strongly with the protein whose apparent mol. mass was near 30 kDa in Western blot anal., and the titer of antibodies was 1 : 3200 (OD492 1,3) in the ELISA reaction. The usefulness of the antiserum for **immunoassays** in the screening of transgenic **plants** and for estimating the level of expression of the AMV **coat protein** by host **plants** was shown.
- L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB Mucin peptide epitopes are inserted into the **coat protein** of a **plant virus** (e.g. a comovirus such as cowpea mosaic **virus**) having a β -barrel structure at

an **immunogenically** effective site, such as in a loop connecting β -sheets or at/near the C-terminus. The resulting chimeric **virus** particles are extremely **immunogenic**, giving better results than KLH conjugation and not requiring the addition of exogenous **adjuvant**. They are effective at mucosal surfaces, particularly when administered intranasally, and induce antibodies to tumor antigens.

L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
 AB A synthetic peptide (peptide 10) representing a surface-exposed, linear B cell **epitope** from outer-membrane (OM) protein F of *Pseudomonas aeruginosa* was shown previously to afford protection in mice from *P. aeruginosa* infection. This peptide was expressed in tandem with the protein F peptide 18 on each of the two coat proteins of cowpea mosaic **virus** (CPMV). The chimaeric **virus** particles (CVPs) expressing the peptides on the S (small) **coat protein** (CPMV-PAE4) and L (large) **coat protein** (CPMV-PAE5) were used to immunize mice. Following s.c. immunization in Freund's and QuilA adjuvants, CPMV-PAE4 induced antibodies predominantly against peptide 18, whereas CPMV-PAE5 produced antibodies exclusively against peptide 10, indicating that the site of peptide expression on CPMV influences its immune recognition. The anti-peptide antibodies elicited by CPMV-PAE5 were predominantly of the IgG2a isotype, indicating a highly polarized TH1-type response. The peptide-specific IgG2a strongly recognized the whole F protein, but more importantly, recognized protein F in all seven Fisher-Devlin **immunotypes** of *P. aeruginosa*. Furthermore, the peptide-specific IgG2a in CVP/QS-21 **adjuvant** -immunized mice was shown to bind complement and to augment phagocytosis of *P. aeruginosa* by human neutrophils in vitro. The ability of CPMV-PAE5 to induce *P. aeruginosa*-specific opsonic IgG2a gives it potential for further development as a protective vaccine against *P. aeruginosa*.

L7 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 AB Presentation of subunit vaccines in a highly ordered aggregate form can result in enhanced immune responses. **Coat protein** (CP) monomers of a potyvirus (Johnsongrass mosaic **virus**) when produced in heterologous host expression systems (*Escherichia coli*, yeast and insect cells) self-polymerized to produce potyvirus-like particles (PVLPS). The N- and C-terminal regions of potyvirus CP are surface-exposed and are not required for assembly. Hybrid CP monomers containing short peptides fused to their N- and/or C-termini, or large target antigens fused to the N-terminus or replacing most of the N- or C-terminal exposed regions retained the ability to assemble into hybrid PVLPS. Such chimeric PVLPS were highly **immunogenic** in mice and rabbits even in the absence of any **adjuvant**. Potyvirus CP is highly versatile in accommodating peptides or large antigens and is able to present antigens exposed on the surface of **virus**-like particles. This, combined with the efficiency of high level bacterial and insect cell expression systems, makes PVLPS an attractive non-pathogenic and non-replicative vaccine carrier.

=> d 1-3 pi

L7	ANSWER 1 OF 5	CAPLUS	COPYRIGHT 2004 ACS on STN	
	PATENT NO.	KIND	DATE	APPLICATION NO. DATE
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PI	WO 2002040513	A2	20020523	WO 2001-GB5142 20011120
	WO 2002040513	A3	20021107	
	WO 2002040513	C2	20030501	
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,			
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,			
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,			
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,			
	PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,			

US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
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 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
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 AU 2002023860 A5 20020527 AU 2002-23860 20011120
 EP 1337553 A2 20030827 EP 2001-996550 20011120
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2004072781 A1 20040415 US 2003-416290 20031027

L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN

L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2001018199 A1 20010315 WO 2000-GB3500 20000911
 WO 2001018199 C2 20020906
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 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
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 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 EP 1214410 A1 20020619 EP 2000-958882 20000911
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL

=> d 2 so

L7 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
 SO Dopovidi Natsional'noi Akademii Nauk Ukraini (2002), (11), 179-187
 CODEN: DNAUFL; ISSN: 1025-6415

=> d 4 so

L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
 SO Microbiology (Reading, United Kingdom) (1999), 145(1), 211-220
 CODEN: MROBEO; ISSN: 1350-0872

=> d 5 pi

L7 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

=> d 5 so

L7 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 SO Intervirology, (1996) Vol. 39, No. 1-2, pp. 85-92.
 CODEN: IVRYAK. ISSN: 0300-5526.

=> dis his

(FILE 'HOME' ENTERED AT 09:52:17 ON 25 JUN 2004)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 09:52:24 ON 25 JUN 2004

L1 211 S VIRUS AND BETA BARREL
 L2 45 S L1 AND PLANT?

L3 28 DUP REM L2 (17 DUPLICATES REMOVED)
 L4 14803 S VIRUS AND PLANT? AND (IMMUNO? OR ANTIGEN OR EPITOPE)
 L5 1074 S L4 AND COAT PROTEIN
 L6 6 S L5 AND ADJUVANT
 L7 5 DUP REM L6 (1 DUPLICATE REMOVED)

=> s l4 and (mucin or muc1 or pem)
 L8 6 L4 AND (MUCIN OR MUC1 OR PEM)

=> dup rem l8
 PROCESSING COMPLETED FOR L8
 L9 6 DUP REM L8 (0 DUPLICATES REMOVED)

=> d 1-6 ti

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Boroprolone compound combination therapy for various diseases

L9 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Bioadhesive nanoparticulate compositions having cationic surface stabilizers

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Methods for treating cancer

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Chimeric **plant** viruses with **mucin** peptides possessing strong **immunogenicity**

L9 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 TI In vitro assessment of antifungal therapeutic potential of salivary histatin-5, two variants of histatin-5, and salivary **mucin** (MUC7) domain 1.

L9 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 TI Salivary mucins: Protective functions in relation to their diversity.

=> d ab

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A method is provided for treating subjects with combination therapy including compds. of Formula I (wherein m is an integer between 0 and 10, inclusive; A and A1 may be L- or D-amino acid residues, the C bonded to B is in the L-configuration, and each X1 and X2 is, independently, a hydroxy group or a group capable of being hydrolyzed to a hydroxy group in aqueous solution at physiol. pH). It was surprisingly discovered that this combination enhanced the efficacy of both agents, and that administration of Formula I compds. induced cytokine and chemokine production in vivo. The combinations can be used to enhanced ADCC, stimulate immune responses and /or patient and treat certain disorders. The invention also relates to kits and compns. relating to such combinations.

=> d pi

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2004004661 A2 20040115 WO 2003-US21547 20030709

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,

PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
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 KZ, MD, RU, TJ
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
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 NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG
 US 2004077601 A1 20040422 US 2003-616694 20030709

=> d 3 ab

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Dendritic cells play a critical role in **antigen**-specific immune responses. Materials and methods are provided for treating disease states, including cancer and autoimmune disease, by facilitating the migration or activation of **antigen**-presenting dendritic cells. In particular, methods are provided for treating cancer in a mammal comprising administering to said mammal an effective amount of a targeting construct comprising 6Ckine or a biol. active fragment or variant thereof and a targeting moiety.

=> d 3 pi

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI EP 1256354 A1 20021113 EP 2001-401211 20010511
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 WO 2002091996 A2 20021121 WO 2002-US14541 20020507
 WO 2002091996 A3 20040108
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU,
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 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 US 2003008840 A1 20030109 US 2002-140802 20020507
 EP 1401377 A2 20040331 EP 2002-769688 20020507
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

=> d 4 pi

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

 PI WO 2001018199 A1 20010315 WO 2000-GB3500 20000911
 WO 2001018199 C2 20020906
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
 CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
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 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
 CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1214410 A1 20020619 EP 2000-958882 20000911
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL

=> s cowpea mosaic virus and (epitope or antigen or immuno?)
 L10 199 COWPEA MOSAIC VIRUS AND (EPITOPE OR ANTIGEN OR IMMUNO?)

=> s l10 and (beta or barrel)
 L11 9 L10 AND (BETA OR BARREL)

=> dup rem l11
 PROCESSING COMPLETED FOR L11
 L12 8 DUP REM L11 (1 DUPLICATE REMOVED)

=> d 1-8 ti

L12 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Chimeric capsid proteins and uses in ligand identification and for
 defining crystallization conditions for heterologous proteins in the
 capsid

L12 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Chimeric capsid proteins and uses in ligand identification and for
 defining common crystallization conditions for heterologous proteins in
 the capsid

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Expression and **immunogenicity** of malaria merozoite peptides
 displayed on the small coat protein of chimeric **cowpea**
 mosaic virus

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
 TI Reduction of bladder cancer cell growth in response to hCG.**beta**.
 CTP37 vaccinated mouse serum

L12 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Chimeric plant viruses with mucin peptides possessing strong
 immunogenicity

L12 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Influence of three-dimensional structure on the **immunogenicity**
 of a peptide expressed on the surface of a plant virus

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Position-dependent processing of peptides presented on the surface of
 Cowpea Mosaic virus

L12 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Therapeutic and diagnostic vaccine for the treatment of microbial
 infections

=> d 1-8 pi

L12	ANSWER 1 OF 8	CAPLUS	COPYRIGHT 2004	ACS on STN	
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 2004002058	A1	20040101	US 2002-329987	20021226
	US 2003124144	A1	20030703	US 2002-176714	20020621

L12	ANSWER 2 OF 8	CAPLUS	COPYRIGHT 2004	ACS on STN	
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2003000855 A2 20030103 WO 2002-US19891 20020621
 WO 2003000855 A3 20030410
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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 EP 1409551 A2 20040421 EP 2002-746641 20020621
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

L12 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2001018199 A1 20010315 WO 2000-GB3500 20000911
 WO 2001018199 C2 20020906
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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 EP 1214410 A1 20020619 EP 2000-958882 20000911
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL

L12 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

L12 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9718790 A2 19970529 WO 1996-US18796 19961121
 WO 9718790 A3 19970731
 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK,
 EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
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 BY, KG, KZ, MD, RU, TJ, TM
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 IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML,
 MR, NE, SN, TD, TG
 CA 2238262 AA 19970529 CA 1996-2238262 19961121
 AU 9711226 A1 19970611 AU 1997-11226 19961121
 EP 869801 A2 19981014 EP 1996-942049 19961121
 EP 869801 B1 20040121
 R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL,
 PT, SE
 JP 2000503630 T2 20000328 JP 1997-519932 19961121
 AT 258057 E 20040215 AT 1996-942049 19961121

=> d 3-4 so

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
SO Indian Journal of Medical Research (2003), 118(Sept.), 115-124
CODEN: IMIREV; ISSN: 0971-5916

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
SO Oncology Research (2003), 14(2), 93-100
CODEN: ONREE8; ISSN: 0965-0407

=> d 6-7 so

L12 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
SO Journal of Molecular Recognition (2000), 13(2), 71-82
CODEN: JMORE4; ISSN: 0952-3499

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
SO Biological Chemistry (1999), 380(3), 387-392
CODEN: BICHF3; ISSN: 1431-6730

=> d 8 ab

L12 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AB Therapeutic peptides, vaccines and diagnostic agents are disclosed for the treatment of pathogenic infections. The agents are capable of binding to mol. address on host cell (e.g. leukocyte, endothelial or epithelial cells, nerve cells), triggering one or more signal transduction pathways and enabling selective pathogen or toxin to traffic through host tissue. The agents are microbial attachment mols. such as adhesive protein, glycoprotein, lectin, carbohydrate, glycolipid.

=> d 7 ab

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AB The plant virus **cowpea mosaic virus** (CPMV) was developed as an **epitope**-presentation system. Numerous epitopes were expressed in the .**beta**.B-.**beta**.C loop of the CPMV small coat protein, all of which undergo a cleavage reaction between their two carboxy-terminal residues. Although many peptides presented in this manner give an authentic immune response, this was not the case for the NIm-1A **epitope** from human rhinovirus-14. Crystallog. revealed significant differences between the structure of NIm-1A on CPMV compared with its native configuration. The 3D structure of CPMV expressing NIm-1A was used to design alterations to the context of the NIm-1A graft.

=> s muc1 or pem

L13 6034 MUC1 OR PEM

=> s l13 and mucin

L14 1779 L13 AND MUCIN

=> s l14 and vaccine

L15 135 L14 AND VACCINE

=> s l15 and virus

L16 18 L15 AND VIRUS

=> dup rem l16

PROCESSING COMPLETED FOR L16

L17 18 DUP REM L16 (0 DUPLICATES REMOVED)

=> d 1-18 ti

L17 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Antigen epitope attached to Ig and in conjunction with RNA for generating effector profile of T cells and activating selected subsets of antigen presenting cells

L17 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Galactosyl epitope-expressing **mucin** fusion proteins for vaccination

L17 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Prevention of Spontaneous Breast Carcinoma by Prophylactic Vaccination with Dendritic/Tumor Fusion Cells

L17 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Phase I immunotherapy with a modified vaccinia **virus** (MVA) expressing human **MUC1** as antigen-specific immunotherapy in patients with **MUC1**-positive advanced cancer

L17 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Immunotherapy of spontaneous mammary carcinoma with fusions of dendritic cells and **mucin** 1-positive carcinoma cells

L17 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Pharmaceutical composition for treating and preventing human tumors, which express the tumor antigen **mucin** and/or the carcinoembryonic antigen (CEA), and the use thereof

L17 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Transduction of human dendritic cells with a recombinant modified vaccinia Ankara **virus** encoding **MUC1** and IL-2

L17 ANSWER 8 OF 18 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Transduction of human dendritic cells with a recombinant vaccinia **virus** encoding **MUC1** and IL-2.

L17 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Immunorecognition of epitope peptides modified by flanking or conjugation to branched polypeptide carrier

L17 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Recombinant pox **virus** for immunization against **MUC1** tumor-associated antigen

L17 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Synthetic multiple tandem repeat **mucin** and **mucin**-like peptides, and uses thereof

L17 ANSWER 12 OF 18 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI The polymorphic epithelial **mucin** (**MUC1**): A phase I clinical trial testing the tolerance and immunogenicity of a Vaccinia **virus-MUC1**-IL2 construct in breast cancer.

L17 ANSWER 13 OF 18 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

TI Therapeutic antitumor response after immunization with an admixture of recombinant vaccinia viruses expressing a modified **MUC1** gene and the murine T-cell costimulatory molecule B7.

L17 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Mucin** gene-transfected human B-cells as antitumor

vaccine

- L17 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
TI Antigen-carbohydrate conjugates and their use in immunotherapy
- L17 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
TI Recombinant epithelial cell **mucin** (MUC-1) expressed in baculovirus resembles antigenically tumor associated **mucin**, target for cancer immunotherapy
- L17 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
TI Selection of peptide ligands for the antimucin core antibody C595 using phage display technology: definition of candidate epitopes for a cancer **vaccine**
- L17 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
TI Vaccinia **virus MUC1** immunization of mice: immune response and protection against the growth of murine tumors bearing the **MUC1** antigen

=> d 4 so

- L17 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
SO Journal of Gene Medicine (2003), 5(8), 690-699
CODEN: JGMEFG; ISSN: 1099-498X

=> d 10 so

- L17 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2

=> d 10 pi

- L17 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
- | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 9837095 | A2 | 19980827 | WO 1998-US3693 | 19980224 |
| WO 9837095 | A3 | 19981119 | | |
| W: AU, CA, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| AU 9861860 | A1 | 19980909 | AU 1998-61860 | 19980224 |
| AU 727308 | B2 | 20001207 | | |
| EP 1012276 | A2 | 20000628 | EP 1998-906706 | 19980224 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| US 2003021770 | A1 | 20030130 | US 2002-57136 | 20020125 |

=> d 18 so

- L17 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
SO Journal of Immunotherapy with Emphasis on Tumor Immunology (1993), 14(2), 136-43
CODEN: JIEIEZ; ISSN: 1067-5582

=> d 15 so

- L17 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
SO Eur. Pat. Appl., 34 pp.

CODEN: EPXXDW

=> d 15 pi

L17 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
PATENT NO. KIND DATE APPLICATION NO. DATE

PI EP 659768 A2 19950628 EP 1994-303817 19940526
EP 659768 A3 19961218
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
JP 07206707 A2 19950808 JP 1994-137976 19940527
CA 2135833 AA 19950625 CA 1994-2135833 19941115
AU 9481728 A1 19950629 AU 1994-81728 19941223
AU 685539 B2 19980122
WO 9518145 A1 19950706 WO 1994-AU789 19941223
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,
GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG,
MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA,
US, UZ
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU,
MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN,
TD, TG
AU 9513081 A1 19950717 AU 1995-13081 19941223

=> d 15 ab

L17 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
AB Conjugates between ≥ 1 repeated subunits of an antigen and a
carbohydrate polymer are useful as immunogenic vaccines against disease
states and for inducing cell-mediated immune responses. The conjugates
may especially contain polymers of mannose and ≥ 1 repeated subunits of
human **mucin** for treatment of cancers characterized by overprodn.
of **mucin**. Thus, a fusion protein of 5 repeats of a
60-amino-acid sequence from human **mucin MUC1** with
glutathione S-transferase was conjugated to the aldehyde groups of
oxidized mannan and stabilized by reduction Mice immunized with this
conjugate and subsequently challenged with **MUC1**-expressing tumor
cells showed inhibition of tumor growth.